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TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371

1390-0124P

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

09/831279

INTERNATIONAL APPLICATION NO.

PCT/FI99/00934

INTERNATIONAL FILING DATE

November 9, 1999

PRIORITY DATE CLAIMED

November 9, 1998

## TITLE OF INVENTION

SPACE STRUCTURE AND A METHOD FOR PRESENTING THEREIN ESPECIALLY THE COLD SEASON

## APPLICANT(S) FOR DO/EO/US

LAIJOKI-PUSKA, Ritva

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39 (1).
4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
- a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau). WO 00/281714
- b. ☒ has been transmitted by the International Bureau.
- c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
- a. ☐ is transmitted herewith.
- b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4)
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
- a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
- b. ☐ have been transmitted by the International Bureau.
- c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
- d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 20. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98./International Search Report (PCT/ISA/210) with 4 cited references
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
14. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821-1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information:
- 1.) Two (2) sheets formal drawings
- 2.) International Preliminary Examination Report (PCT/IPEA/409)
- 3.) PCT Request (PCT/RO/101)

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>09/831279</b>	INTERNATIONAL APPLICATION NO. PCT/FI99/00934	ATTORNEY'S DOCKET NUMBER 1390-0124P
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21. <input checked="" type="checkbox"/> The following fees are submitted:				<b>CALCULATIONS</b>		<b>PTO USE ONLY</b>	
<b>BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):</b> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO. ....				<b>\$1,000.00</b>			
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO .....				<b>\$860.00</b>			
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO. ....				<b>\$710.00</b>			
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) .....				<b>\$690.00</b>			
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4). ....				<b>\$100.00</b>			
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>					<b>\$ 1000.00</b>		
Surcharge of <b>\$130.00</b> for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input checked="" type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).					<b>\$ 130.00</b>		
<b>CLAIMS</b>	<b>NUMBER FILED</b>	<b>NUMBER EXTRA</b>	<b>RATE</b>				
Total Claims	13 - 20 =	0	X <b>\$18.00</b>	<b>\$</b>	<b>0</b>		
Independent Claims	3 - 3 =	0	X <b>\$80.00</b>	<b>\$</b>	<b>0</b>		
MULTIPLE DEPENDENT CLAIM(S) (if applicable) YES				<b>+ \$270.00</b>	<b>\$</b>	<b>270.00</b>	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				<b>\$</b>	<b>1130.00</b>		
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.					<b>\$ - 565.00</b>		
<b>SUBTOTAL =</b>				<b>\$</b>	<b>565.00</b>		
Processing fee of <b>\$130.00</b> for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).					<b>\$ 0</b>		
<b>TOTAL NATIONAL FEE =</b>				<b>\$</b>	<b>0</b>		
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). <b>\$40.00</b> per property +				<b>\$</b>	<b>0</b>		
<b>TOTAL FEES ENCLOSED =</b>				<b>\$</b>	<b>565.00</b>		
				<b>Amount to be:</b>	<b>\$</b>		
				<b>refunded</b>	<b>\$</b>		
				<b>charged</b>	<b>\$</b>		

- a. ☒ A check in the amount of \$ 700.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any  
overpayment to Deposit Account No. 02-2448.

**NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.**

Send all correspondence to:

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Date: May 9, 2001

By Joe McKinney Murcy  
Joe McKinney Murcy, #32,334

09/831279

PATENT  
1390-0124P  
JC08 Rec'd PCT/PTO 09 MAY 2001

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: LAIJOKI-PUSKA, Ritva Conf.:  
Appl. No.: NEW Group:  
Filed: May 9, 2001 Examiner:  
For: SPACE STRUCTURE AND A METHOD FOR  
PRESENTING THEREIN ESPECIALLY THE COLD  
SEASON

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents  
Washington, DC 20231

May 9, 2001

Sir:

The following preliminary amendments and remarks are respectfully submitted in connection with the above-identified application.

IN THE SPECIFICATION:

Before line 1, insert --This application is the national phase under 35 U.S.C. § 371 of PCT International Application No. PCT/FI99/00934 which has an International filing date of November 9, 1999, which designated the United States of America and was published in English.

**In the Claims:**

Please amend the claims as follows:

4. (Amended) A structure as defined in claim 1, characterized in that one or several refrigerating and/or heating apparatus (es) is (are) arranged for the temperature regulation of different spaces, said apparatus being common for several partially closed separate spaces (7 to 16b, 23) or a corresponding space connected to said structure, favorably so that the excess heat which is generated during the refrigeration of a space (7, 11 to 16, 23) adapted for arctic and/or winter activities or functions can be conducted for the heating of a separate space (5, 9) arranged for tropical and/or summer activities or functions.

5. (Amended) A structure as defined in claim 1, characterized in that a separate space (23) for a separate activity or function is arranged in connection with said unitary interior space (6) outside thereof, where the interior temperature of said separate (23) logically connects to a separate space (7, 12 to 16) arranged in said unitary interior space (6).

6. (Amended) A structure as defined in claim 1, characterized in that natural and/or artificial plants (21) and/or animals (19,

20) and/or structures providing experiences of art or such like are located in said at least partially closed separate spaces (7 to 16b, 23).

7. (Amended) A structure as defined in claim 1, characterized in that separate spaces for describing at least winter (7) and summer (9), suitably additionally spring (8) and autumn (10) are arranged in said interior space (6), favorably so that the temperatures in said spaces are adapted mutually to change in accordance with the yearly seasonal rhythm of nature or in a rhythm which differs therefrom in a desired manner.

8. (Amended) A structure as defined in claim 1, characterized in that at least one separate space (12) comprises a water area (14) or pool having an ice cover and arranged for winter swimming and/or winter jig fishing or similar activity, said pool suitably having fish or the like water animals located therein.

REMARKS

The claims have been amended to delete the multiple dependencies in order to place the application into better form prior to examination.

Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited. If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By Joe McKinney Muncy  
Joe McKinney Muncy, #32,334

KM/tf  
1390-0124P

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Attachments

(Rev. 03/27/01)

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

The claims have been amended as follows:

4. (Amended) A structure as defined in [any one of claims 1 to 3] claim 1, characterized in that one or several refrigerating and/or heating apparatus (es) is (are) arranged for the temperature regulation of different spaces, said apparatus being common for several partially closed separate spaces (7 to 16b, 23) or a corresponding space connected to said structure, favorably so that the excess heat which is generated during the refrigeration of a space (7, 11 to 16, 23) adapted for arctic and/or winter activities or functions can be conducted for the heating of a separate space (5, 9) arranged for tropical and/or summer activities or functions.

5. (Amended) A structure as defined in [any one of claims 1 to 4] claim 1, characterized in that a separate space (23) for a separate activity or function is arranged in connection with said unitary interior space (6) outside thereof, where the interior

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temperature of said separate (23) logically connects to a separate space (7, 12 to 16) arranged in said unitary interior space (6).

6. (Amended) A structure as defined in [any one of claims 1 to 5] claim 1, characterized in that natural and/or artificial plants (21) and/or animals (19, 20) and/or structures providing experiences of art or such like are located in said at least partially closed separate spaces (7 to 16b, 23).

7. (Amended) A structure as defined in [any one of claims 1 to 6] claim 1, characterized in that separate spaces for describing at least winter (7) and summer (9), suitably additionally spring (8) and autumn (10) are arranged in said interior space (6), favorably so that the temperatures in said spaces are adapted mutually to change in accordance with the yearly seasonal rhythm of nature or in a rhythm which differs there from in a desired manner.

8. (Amended) A structure as defined in [any one of claims 1 to 7] claim 1, characterized in that at least one separate space (12) comprises a water area (14) or pool having an ice cover and arranged for winter swimming and/or winter jig fishing or similar activity, said pool suitably having fish or the like water animals located therein.



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SPACE STRUCTURE AND A METHOD FOR PRESENTING THEREIN  
ESPECIALLY THE COLD SEASON

The present invention relates to a spatial structure arranged especially for the spending of leisure, said space having wall and, correspondingly, roof structures defining one or several interior spaces separated from open-air. The present invention further relates to a method for presenting and/or for the realization of different climatic, especially winter activities in spaces separated from open-air and defined by essentially closed structures.

Greenhouses and the like spaces are known, which spaces are separated from open-air and where, within a cut-off of temperature minimums and especially an artificially achieved rise of temperature, it is possible to grow also such plants which at the latitudes in question would not survive on their own, due to alternations in the open-air temperature. Such greenhouses are usually intended for producing plants or parts of plants to be eaten or sensed in some way or in certain circumstances to promote scientific functions. One also knows zoological gardens usually having sheds for selected kinds of animals arranged so that the animals at least during some seasons and especially during the cold seasons obtain shelter against the climate.

Partially refrigerated spaces such as artificial ice tracks for skating, where certain winter sport activities can be practiced regardless of the outdoor temperature are also known. For similar purposes essentially horizontal ski tracks have been developed which are furnished with artificial snow. Deep frozen spaces used for the storage especially of food stuff in such a low temperature that the natural biological degradation is slowed down or completely prevented are also known.

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In connection with sporting facilities it has earlier been proposed to combine artificial ice tracks with heated, possibly roofed, winter football fields, so that the waste heat produced by the freezing plant could be utilized for the heating of the football field lawn using an underground heating system.

The aforesaid space arrangements having a controlled temperature are each individually intended for some rather limited activity. Thus, until now there has existed no overall space arrangement based on natural activities or functions in accordance with the different seasons of the year and where the seasons of earth and especially its northern regions could be presented at a latitude and a time of choice and in an environment as natural as possibly.

In order to amend the above described deficiency the present invention discloses a solution as described in the appended claims. Thus, the spatial structure according to the present invention is characterized in that several such at least partially closed separate spaces are arranged within an essentially unitary interior space or in immediate connection thereto, wherein the climate in each of said separate spaces can be separately regulated in accordance with mutually differing conditions. Again, the method according to the present invention is characterized by regulating the temperature of separate essentially closed individual spaces, which spaces are arranged suitably in a common interior space or immediately in connection thereto, individually to correspond to a certain climate, especially a season of the year, so that activities and functions corresponding to the respective climate conditions are brought to accomplishment in a space presenting the mean temperature of the respective climate.

The invention will now be described by way of exemple with reference to the appended schematic drawings, wherein:

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Figure 1 discloses a plan drawing of a solution according to one embodiment of the present invention,

Figure 2 as a sectional view discloses the embodiment of Figure 1 as seen from the side,

Figure 3 as a perspective view discloses the embodiment of Figure 1, and

Figure 4 discloses a possible detail of one separate space.

The embodiment of Figure 1 comprises two for architectural reasons circular structures 1, 1a which define a common interior space. Said structures comprise a wall/roofing structure 2, 3 which suitably is heat insulated or which in some other manner at least to some extent balances the temperature impact of the ambient climate. Said structures are arranged, in the embodiment disclosed, as two main cupolas, as evident especially from Figure 3. Of course, this outer structure 2, 3 can also be accomplished in any other shape, e.g. as a pyramid, as a conventional parallelepiped or as an arbitrary multi-shaped structure. The cupola or corresponding structure is favorably made of glass or the like material which at least to some extent is permeable to sun light so that the light and/or darkness of the ambient outdoor space can be utilized also in the interior space.

In the embodiment disclosed the implementation of a main cupola structure 1a generally corresponds to an ice stadium or a corresponding hall known per se and arranged for sports or the like activities, i.e. it comprises a central suitably refrigerated field 4, e.g. an artificial ice track known per se, including a stand 5 also known per se. This space can be utilized e.g. for sports activities, concerts, dance performances, shows or the like activities. In this cupola structure essentially warm climate conditions prevail, but the structure logically and functionally connects to a second main

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cupola 1 in accordance with the basic inventive idea, wherein the general climate as such might be even considerably colder.

According to the invention several separate spaces 7 to 10, 12 to 14 or groups of separate spaces 11, 15, 16 are located in an interior space 6 defined by said main cupola 1. In accordance with the present invention the temperature in each of such separate spaces can be separately regulated in accordance with the desired activity or function.

One or favorably several machineries known per se (not disclosed in the drawings) working in accordance with the heat pump principles or in a corresponding manner are arranged, for the regulation of the temperature, in a service space 22, 22a connected favorably to each of said main cupolas 1, 1a, suitably located under the cupola. These machinery(ies) is(are) used to refrigerate those spaces which are to be colder than the other ones. The excess heat generated in the refrigeration of the cold spaces is favorably utilized for heating spaces 5, 9 which are warmer than other spaces. Favorably, a machinery for works of ice art suitable in an arctic landscape is also arranged in said service space, as well as other machinery and equipment necessary for the function of the arrangement. Said service spaces also suitably comprise spaces, means and equipment for the production and maintenance of snow sculptures or the like.

In the disclosed embodiment spaces for reception, ticket sale 26 as well as certain restaurant space 27 are arranged between said main cupolas 1, 1a, said spaces thus serving both main cupolas. Also the temperature regulating machinery favorably serves both spaces either as such or via separate heat transporting units. In the disclosed embodiment both main cupolas further are surrounded by a ski/slalom and/or sledge slope 23 with artificial snow which also favorably is accomplished by said machineries. Said slope 23 encircles the cupola structures 1, 1a favorably so that it ends below the

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level of the service spaces 22 at a level 24 from which a lift 25 takes the users back up to the top of the slope 23. In this manner, for cupolas 1, 1a having a height of e.g. about 40 meters and a corresponding diameter of about 70 meters, a slope 23 is achieved which has a length of about 500 meters. Accomplished in this scale the stand arranged in the cupola 1a will hold 2000 to 5000 persons.

According to the present invention separate spaces or groups of separate spaces are arranged in the suitably cold main cupola 1, the temperature in each individual space being regulated by a suitable refrigeration and/or heating equipment known per se. Thus, a "garden of the four seasons" arranged in the main cupola 1 represents one of the most typical space entities in accordance with the present invention. Said garden comprises suitably four separate spaces defined by at least partially transparent walls, wherein a space 7 may exhibit a typical Nordic or Arctic winter scenery where winter conditions and a corresponding temperature is thus arranged. Especially in order to provide winter conditions a winter scenery arrangement in accordance with US-Patent No. 5,407,392 by the same inventor is favorably arranged in the space. Said arrangement provides, by means of a refrigerating machinery and the introduction of water vapor, ice formations representing winter conditions, which formations may be either separately provided objects of art or e.g. natural trees and structures covered with rime frost. The space further may comprise natural plants and animals capable of enduring the winter and/or imitations thereof. Favorably, sound and light effects showing the season disclosed in a space is arranged in the corresponding space, i.e. the wind whistling and the animals howling in the winter, the murmur of trees, illumination representing the darkness of the polar night and Norther lights effects accomplished favorably by a light cable arrangement etc.

Correspondingly, the space 8 succeeding the winter scenery

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favorably corresponds to the Nordic spring. Favorably, this space too comprises the same apparatus i.e. temperature regulating and other apparatus, which apparatus transform the conditions prevailing in the space to correspond to the desired season. In a corresponding manner spaces 9 and 10 may comprise sceneries and conditions presenting summer and autumn, respectively. Of said spaces the one 9 representing e.g. summer can, in practice, be accomplished with such a temperature which actually discloses a tropical summer with genuine tropical plants and animals. On the other hand, by choosing an essentially similar apparatus for each space 7 to 10 and by selecting the natural plants and possibly animals utilized such an arrangement can also be implemented wherein the conditions in said spaces 7 to 10 actually continuously change in a manner which corresponds to the natural change of seasons or, for example, at a faster rhythm than the natural one, where plants accustomed to Northern conditions will thrive in the same manner as in nature. Also in these spaces sound and light effects suitable for the season are implemented, like the songs of birds, sunlight penetrating the leafage of a rain forest, etc.

A garden arrangement showing the seasons of the year, as disclosed above, can be implemented as separate structures comprising one or several transparent walls, and/or especially favorably so that a door leads thereto from the surrounding space and/or from an adjacent space, which door constitutes an entrance into the space so that one suitably can pass from one space to another. According to some favorable embodiments of the present invention the general concept can comprise, in addition to or replacing the season gardens disclosed, also other space arrangements implemented either separately or within one main cupola 1. Thus, e.g. an arctic sauna entity 11 is favorably linked to the structure. Such a sauna entity suitably comprises separate bathing spaces arranged under cupolas or such like arranged within the main space 6, said bathing spaces having warm and cold pools e.g. in a manner

more closely discussed below. Here a cold pool 14 may comprise an ice cover made by a refrigeration machinery, said ice cover having a hole in the ice for winter swimming. The same pool 14 can also serve a winter fishing arrangement so that the pool contains fish to be caught from under the ice cover using e.g. ice angler's jigs, said fish being either especially brought into the pool or bred therein.

Especially favorably said sauna entity 11 comprises a common separate space 11a covering several smaller separate spaces 12, 12a, 12b, 12c, 12e, said common space suitably being arranged within the main space 6 and as such surrounding said separate spaces 12, 12a, 12b etc. arranged for different functions. Thus, an entity is implemented in practice, which comprises several nested structural layers wherein the space 6, 6a between each of every respective two structural layers 1-11a, 11a-12 etc. can be separately climate conditioned in accordance with the principles set forth in the present application.

Correspondingly, the climate in each of the innermost separate spaces 12, 12a, 12b etc. can be changed as desired in a manner which differs from the one in an adjacent or surrounding space. Thus, the sauna entity 11 disclosed in Figure 1 comprises a central steam room 12 which suitably is arranged in an intermediate cupola 11a and around which steam room, besides said earlier disclosed ice cold pool 14a arranged in said separate space 12a, also a warm pool is arranged in a further separate space 12b.

The climate in said separate space 12b can further, either as an entity or to separate, in certain cases separately refrigerated structures, be so cold that the water steaming from the warm pool will form rime frost on the structures of the space 12b and thus constitute a beautiful natural decoration. Besides these cold separate spaces 12a, 12b an entirely warm space 12c for e.g. children may be arranged in said space 11a,

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said warm space comprising a warm pool and possibly imitations of frosted structures and plants and/or plants and other decorations adapted for a warm space. A separate snow bath space 12d can further be connected to said sauna space 12, said snow bath space comprising artificial snow where it is possible to tumble or roll around in connection with the sauna bathing.

Said separate spaces 12, 12a, 12b, 12c and 12d arranged favorably in an intermediate space 11a are favorably mutually interconnected by suitably transparent corridors 11b. In the same manner a connection is arranged to dressing rooms 11c arranged suitably in the vicinity of the circumference of the intermediate space 11a, as well as, for example, to a separate space 12e comprising an ice bar. This space 12e can also be arranged partially outside the wall/roof structure defining said intermediate space 11a as disclosed in the Figure.

The general arrangement can further comprise an arctic zoo 13, an arctic fishing and diving pool 14 as disclosed above, as well as suitably other separate spaces for such leisure, hobby or sports activities as can be adapted to a winter landscape. In a corresponding manner e.g. snow churches 15, 15a, 15b for one or suitably different religious groups can be arranged in the common space 6 defined by the common main cupola 1, for weddings or similar occasions. The space also favorably comprises a snow hotel with igloo type accommodation spaces 16, 16a, 16b, in connection to which favorably spaces for washing and similar utilities are arranged for each accommodation space. These washing spaces can favorably be used also as dressing rooms for people visiting the structure, giving opportunity to change into appropriate dress in accordance with the conditions prevailing in each of the separate spaces.

In the disclosed embodiment an artificial iceberg 17 is further arranged centrally in the interior space 6 generally disclosing arctic conditions, said iceberg being arranged

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either in its closed separate space or located freely directly in the interior space 6. In this respect Figure 4 discloses an iceberg scenery which, in accordance with one embodiment of the present invention, is confined into its own separate space by transparent walls 18. In this case there can also be animals belonging to the arctic world either as living specimen 19 or as imitations 20, suitably also as plants 21 connected to said scenery. If an iceberg 17 is arranged directly in a common interior space 6 it can, on the other hand, be utilized e.g. for climbing. The erosion of the iceberg 17 caused by the climbing activities can namely be especially easily amended by the refrigerating capacity at hand.

Above some embodiment of the present invention as well as some arrangements implementable in accordance therewith have been disclosed by way of example. For the professional it is, however, clear that the invention can be utilized also in other ways within the scope of the appended claims.

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## Claims

1. A spatial structure (1, 1a) arranged especially for spending of leisure, said structure comprising wall and, correspondingly, roof structures (2, 3) which define one or several interior space(s) (6) separated from the ambient open-air, characterized in that several at least partially closed separate spaces (7 to 16b, 23) are arranged in an essentially unitary interior space (6), or in immediate connection thereto, wherein the climate in each separate space (7 to 16, 2) can be separately regulated in accordance with mutually differing conditions.

2. A structure as defined in claim 1, characterized in that in said at least partially closed separate spaces (7 to 16b, 23) is arranged such activities, which, respectively, constitute different functional groups and suitably are mutually connected by the special climatologic temperature in the respective separate space (7 to 16b, 23), favorably so that they can be at least partially observed also from outside said separate space (7 to 16b, 23) though a transparent wall (18).

3. A structure as defined in claim 1 or 2, characterized in that the temperature of at least one separate space (7) corresponds to the winter temperature of the Nordic or Arctic areas.

4. A structure as defined in any one of claims 1 to 3, characterized in that one or several refrigerating and/or heating apparatus(es) is(are) arranged for the temperature regulation of different spaces, said apparatus being common for several partially closed separate spaces (7 to 16b, 23) or a corresponding space connected to said structure, favorably so that the excess heat which is generated during the refrigeration of a space (7, 11 to 16, 23) adapted for arctic and/or winter activities or functions can be conducted

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for the heating of a separate space (5, 9) arranged for tropical and/or summer activities or functions.

5. A structure as defined in any one of claims 1 to 4, characterized in that a separate space (23) for a separate activity or function is arranged in connection with said unitary interior space (6) outside thereof, where the interior temperature of said separate space (23) logically connects to a separate space (7, 12 to 16) arranged in said unitary interior space (6).

6. A structure as defined in any one of claims 1 to 5, characterized in that natural and/or artificial plants (21) and/or animals (19, 20) and/or structures providing experiences of art or such like are located in said at least partially closed separate spaces (7 to 16b, 23).

7. A structure as defined in any one of claims 1 to 6, characterized in that separate spaces for describing at least winter (7) and summer (9), suitably additionally spring (8) and autumn (10) are arranged in said interior space (6), favorably so that the temperatures in said spaces are adapted mutually to change in accordance with the yearly seasonal rhythm of nature or in a rhythm which differs therefrom in a desired manner.

8. A structure as defined in any one of claims 1 to 7, characterized in that at least one separate space (12) comprises a water area (14) or pool having an ice cover and arranged for winter swimming and/or winter jig fishing or similar activity, said pool suitably having fish or the like water animals located therein.

9. A method for presenting different climate conditions and especially activities related to the cold season of the year, characterized in that the temperature in functionally interconnected essentially closed separate spaces

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(7 to 16b, 23) is separately regulated to correspond to the appropriate climate so that activities or functions corresponding to a respective climate condition are brought to implementation in a space which suitably has the mean temperature of the respective climate. .

10. A method as defined in claim 9, characterized in that excess heat emanating from the refrigeration of a colder separate space (7, 11 to 16, 22) is utilized for the heating of a warmer separate space (5, 9).

11. A method as defined in claim 9 or 10, characterized in that the temperatures in different separate spaces (7 to 10) are brought in turn to mutually alternate in order to disclose and/or imitate the natural seasonal rhythm.

12. A pool structure containing water, characterized in that said pool (14) is arranged in an essentially closed space (12) so that an artificial ice cover can be formed thereon by one or several refrigerating machineries, which ice cover comprises holes for winter swimming and/or winter fishing, or in which ice cover such holes can be made.

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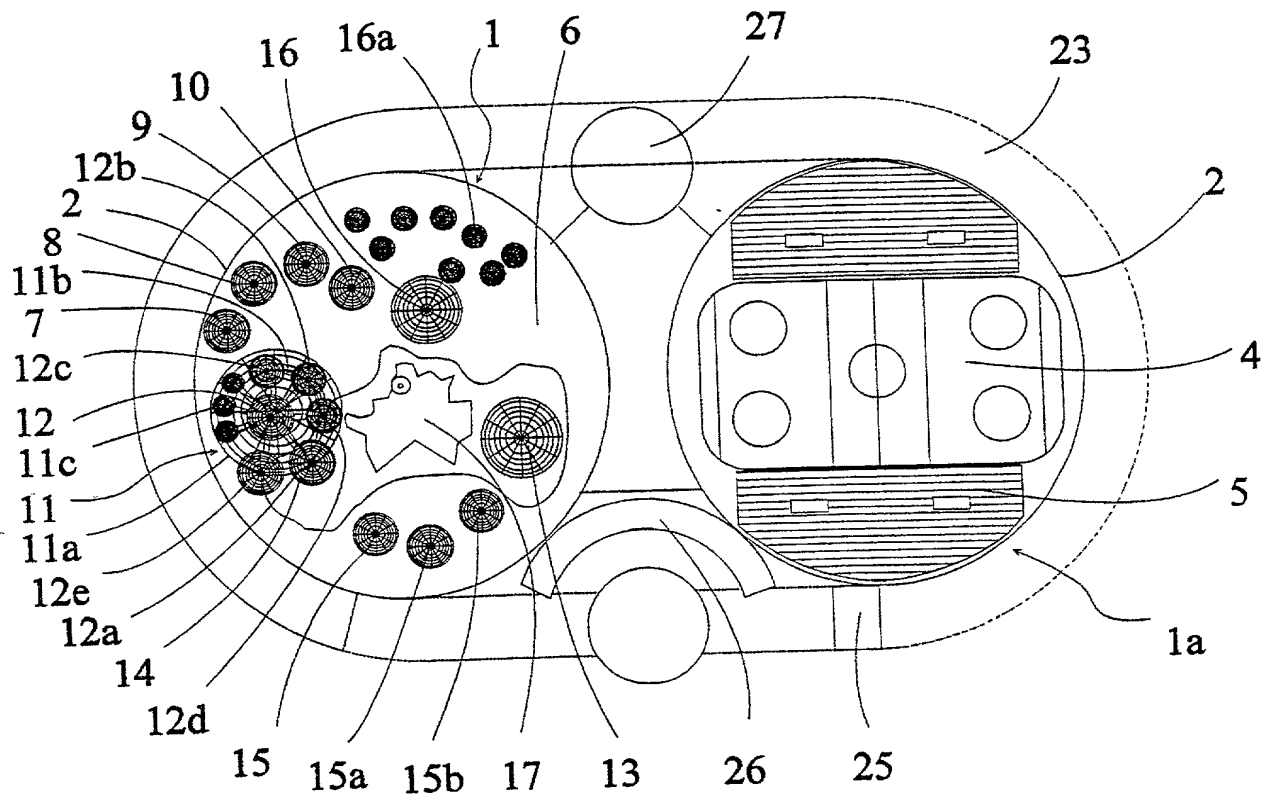


FIG 1

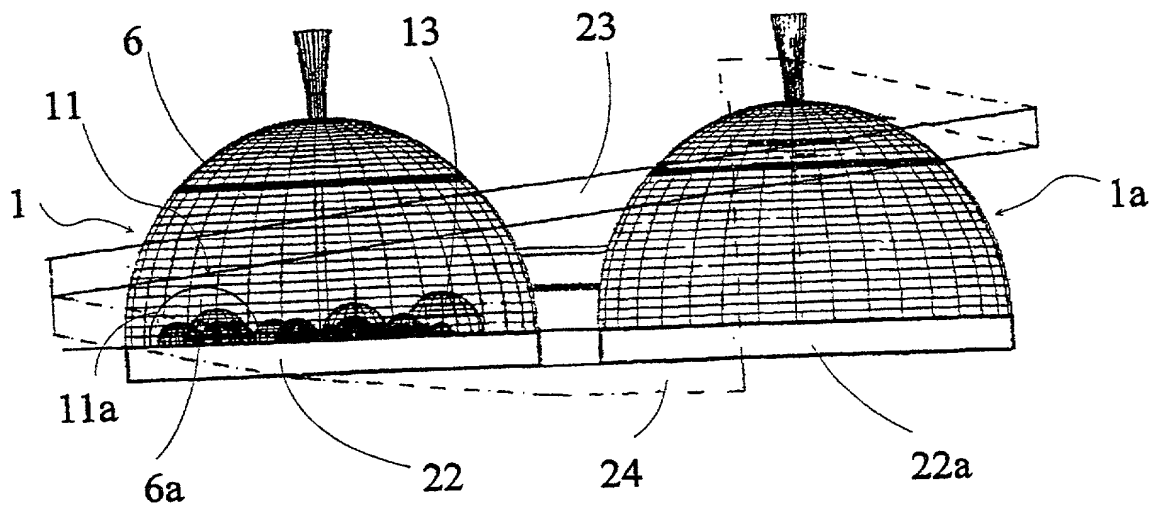


FIG 2

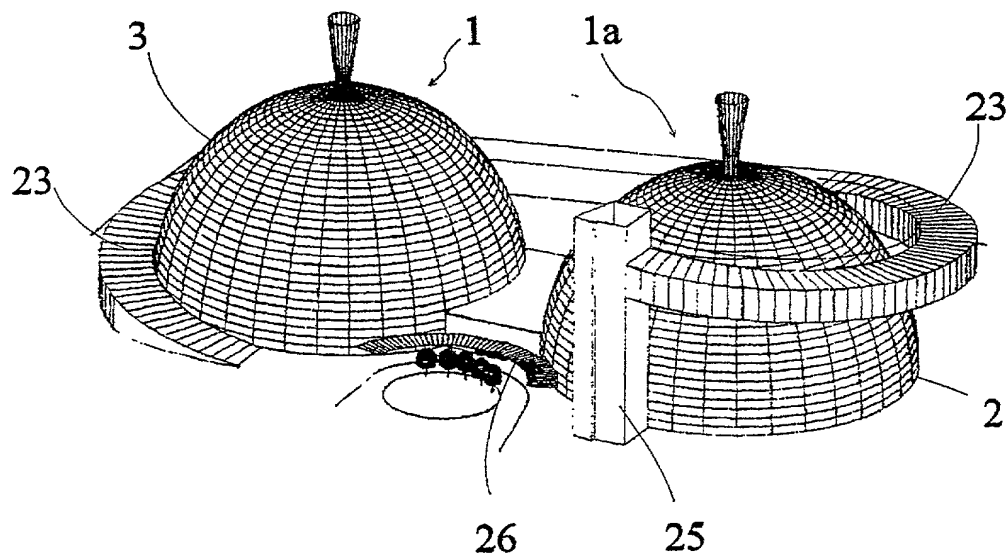


FIG 3

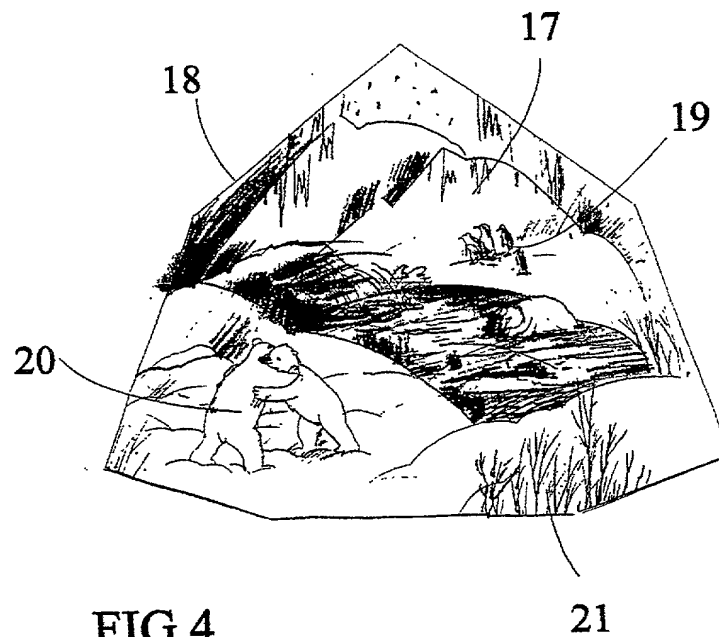


FIG 4

**BIRCH, STEWART, KOLASCH & BIRCH, LLP**P.O. Box 747 • Falls Church, Virginia 22040-0747  
Telephone: (703) 205-8000 • Facsimile: (703) 205-8050PLEASE NOTE:  
YOU MUST  
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FOLLOWING**COMBINED DECLARATION AND POWER OF ATTORNEY  
FOR PATENT AND DESIGN APPLICATIONS**

As a below named inventor, I hereby declare that: my residence, post office address and citizenship are as stated next to my name; that I verily believe that I am the original, first and sole inventor (if only one inventor is named below) or an original, first and joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Insert Title:

SPACE STRUCTURE AND A METHOD FOR PRESENTING THEREIN ESPECIALLY THE COLD SEASONFill in Appropriate  
Information -  
For Use Without  
Specification  
Attached:

the specification of which is attached hereto. If not attached hereto,

the specification was filed on May 9, 2001 as  
United States Application Number \_\_\_\_\_;  
and amended on May 9, 2001 (if applicable) and/or  
the specification was filed on November 9, 1999 as PCT  
International Application Number PCT/US 99/00934; and was  
amended under PCT Article 19 on \_\_\_\_\_ (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I do not know and do not believe the same was ever known or used in the United States of America before my or our invention thereof, or patented or described in any printed publication in any country before my or our invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representative or assigns more than twelve months (six months for designs) prior to this application, and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**Prior Foreign Application(s)****Priority Claimed**Insert Priority  
Information:  
(if appropriate)

<u>982430</u> (Number)	<u>FINLAND</u> (Country)	<u>November 9, 1998</u> (Month/Day/Year Filed)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<u>          </u> (Number)	<u>          </u> (Country)	<u>          </u> (Month/Day/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<u>          </u> (Number)	<u>          </u> (Country)	<u>          </u> (Month/Day/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<u>          </u> (Number)	<u>          </u> (Country)	<u>          </u> (Month/Day/Year Filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States provisional applications(s) listed below.

Insert Provisional  
Application(s):  
(if any)

<u>          </u> (Application Number)	<u>          </u> (Filing Date)
<u>          </u> (Application Number)	<u>          </u> (Filing Date)

All Foreign Applications, if any, for any Patent or Inventor's Certificate Filed More than 12 Months (6 Months for Designs) Prior to the Filing Date of This Application:

Country	Application Number	Date of Filing (Month/Day/Year)
<u>          </u>	<u>          </u>	<u>          </u>
<u>          </u>	<u>          </u>	<u>          </u>

Insert Requested  
Information:  
(if appropriate)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States and/or PCT application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States and/or PCT application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to the patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

Insert Prior U.S.  
Application(s):  
(if any)

<u>          </u> (Application Number)	<u>          </u> (Filing Date)	<u>          </u> (Status - patented, pending, abandoned)
<u>          </u> (Application Number)	<u>          </u> (Filing Date)	<u>          </u> (Status - patented, pending, abandoned)

I hereby appoint the following attorneys to prosecute this application and/or an international application based on this application and to transact all business in the Patent and Trademark Office connected therewith and in connection with the resulting patent based on instructions received from the entity who first sent the application papers to the attorneys identified below, unless the inventor(s) or assignee provides said attorneys with a written notice to the contrary:

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Joe McKinney Muncy	(Reg. No. 32,334)	Donald J. Daley	(Reg. No. 34,313)
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Gary D. Yacura	(Reg. No. 35,416)		

Send Correspondence to:

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or Customer No. 2292

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of First  
or Sole Inventor:  
Insert Name of  
Inventor  
Insert Date This  
Document is Signed

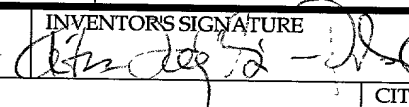
Insert Residence  
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Insert Post Office  
Address

Full Name of Second  
Inventor, if any:  
see above

Full Name of Third  
Inventor, if any:  
see above

Full Name of Fourth  
Inventor, if any:  
see above

GIVEN NAME/FAMILY NAME LAJOKI-PUSKA, Ritva		INVENTOR'S SIGNATURE 	DATE* 29 May 2001
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MAILING ADDRESS (Complete Street Address including City, State & Country)			
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP	
MAILING ADDRESS (Complete Street Address including City, State & Country)			
GIVEN NAME/FAMILY NAME		INVENTOR'S SIGNATURE	DATE*
Residence (City, State & Country)		CITIZENSHIP	
MAILING ADDRESS (Complete Street Address including City, State & Country)			

\*DATE OF SIGNATURE